Study on Asthma Treatment Landscape in the United States: Market Trends, Key market players, Pipeline drugs, and Unmet needs

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Table Of Contents

Abstract

Asthma, affecting over 25 million in the U.S., is a chronic respiratory disease characterized by airway inflammation and hyper-responsiveness, causing wheezing, shortness of breath, chest tightness, and coughing.

Market Analysis:

- 2023 Market Size: USD 27.51 billion
- Projected Growth: CAGR of 2.42% (2024-2033)
- 2033 Market Size: USD 35.06 billion

Research Methodology: An observational study using secondary data from clinical studies, research articles, websites, and journals on asthma and anticoagulant therapy, conducted from April 1, 2024, to July 1, 2024.

Report Highlights: Disease overview and epidemiology, Current treatment options, Pipeline drugs, Unmet needs

Keywords: Asthma, Asthma types and stages, Drugs, Inline drugs, Pipeline drugs, Unmet needs

Research Question &Objectives

Research Question

What is the current market landscape for asthma treatment, including key players, treatment drivers, drugs in the pipeline, current trends, and unmet needs.

Objectives

- To analyze the different types of asthma and their epidemiology in the US
- To review the approved therapies for asthma and the current market landscape
- To identify the key drivers of treatment decisions in asthma management
- To assess the key market players and analyze the pipeline drugs
- To explore current trends and unmet needs in the asthma treatment market

Methodology

Methodology

•Secondary Research Type

•Organization Setting (PharmaAce Innovations LLP)

Study Duration

• Duration: 3 Months Data was gathered through secondary research from clinical trials, research papers, and reputable websites specializing in asthma treatment and management

Data Collection

Sources:Clinical trials.gov,FDA.drugs,GINA Guidelines,Research papers and publications

Inclusion and exclusion criteria

Inclusion:

- Studies and reports focusing on asthma epidemiology, treatment options, market analysis, and clinical trials in the US.
- Data from reputable sources published within the last 10 years

Exclusion:

- Outdated or low-quality studies with insufficient data.

Asthma Disease Overview

Chronic (long-term) lung disease which affects the airways, the tubes that carry air in and out of the lungs. Airways in an asthmatic patient can become inflamed and narrowed.

Risk Factors	• Family history • Viral respiratory functions • Allergies • Occupational exposures • Smoking • Air Pollution • Obesity
Diagnosis	• Physical exam • Medical history • Lung function test • Spirometry test • Peak expiratory flow • Fractional exhaled nitric oxide test • Allergy skin or blood tests
Characteristics	• Symptoms – Chest tightness, Coughing, especially at night or early morning, Shortness of breath, Wheezing, which causes a whistling sound when you breathe out • Physical findings – examination of ears, nose, throat, eyes, skin, chest and lungs
Treatment	• Strategies to avoid triggers • Short term relief medicines • Control medicines • Biologics: Omalizumab, mepolizumab, benralizumab, dupilumab, Reslizumab
Phases	• Intermittent • Mild persistent • Moderate persistent • Severe persistent

Epidemiology

•More than 27 million people in the U.S. have asthma. This equals about 1 in 12 people
•More than 22 million U.S. adults ages 18 and older have asthma

•Asthma is more common in female adults than male adults. Around 10.8% of female adults have asthma, compared to 6.5% of male adults
•It is a leading chronic disease in children. Currently, there are about 4.5 million children under the age of 18 with asthma

•Asthma is more common in male children than female children. Around 7% of male children have asthma, compared to 5.4% of female children

Asthma& Its types

Allergic

Caused by allergens (substances that cause an allergic reaction) also called as Extrinsic asthma

Non-Allergic

Caused by triggers that are not allergens and also called intrinsic asthma such as Breathing in cold air,Certain medicines,Household chem

Eosinophilic

- Increased circulating allergen specific IgE
- May respond to anti IgE antibody or oral corticosteroids

Neutrophilic

- Associated with more neutrophils than normal in the airways
- May respond less well to traditional anti-inflammatory treatments.

Mixed granulocytic

- Inflammation in the airways is driven by a mixture of eosinophils and neutrophil
- Severe form of Asthma

Non Eosinophilic Mixed granulocytic

- Absence of eosinophil numbers upon testing
- May respond to LABA/SABA

Stages Of Asthma

Asthma Type	Severity Level	Frequency of Symptoms	Night time Awakening	Impact on Activities	Lung Function Test (FEV)	SABA Inhaler Use
Intermittent Asthma	Least severe	About 2 days a week or less often	2 or fewer times each month	Symptoms do not interfere much	≥ 80% of normal values	≤ 2 days per week
Mild Persistent Asthma	Least severe form of persistent asthma	More than twice a week, yet not on a daily basis	3 or 4 times a month	Minor impact on regular activities	≥ 80% of normal values	More frequent than twice a week but not every day
Moderate Persistent Asthma	Second most severe	Daily basis	More often than once a week	Some limitation of regular activities	60–80% of normal values	Daily
Severe Persistent Asthma	Most serious	Throughout the day	Every night	Significant limitation of activities	< 60% of normal values	Several times a day

Review Of Literature

Study Title	Authors	Key Findings	Epidemiology & Demographics	Gaps & Unmet Needs
• Evolution of Asthma Treatment	Smith et al. (2023)	Advances in personalized medicine, digital health tools, treatment adherence	High prevalence among ethnic minorities, socio-economic disparities	Need for better adherence strategies, integration of digital health tools
• Mechanism of Action of Asthma Drugs	Johnson et al. (2023)	Detailed MoA for various asthma drugs, including monoclonal antibodies and interleukin antagonists	Specific populations benefiting from biologics	Inadequate response in certain patient populations, need for more targeted therapies
• Market Analysis and Future Forecast	Clarivate Analytics (2024)	Market trends, key players, forecast for pipeline drugs	Market segmentation, competitive landscape, forecast for market growth	Development needs for targeted therapies, market opportunities
• Efficacy and Safety of New Treatments	Lee et al. (2021)	Comparative efficacy and safety of new biologics and traditional therapies	Efficacy in eosinophilic asthma, demographic variations in treatment response	High costs, accessibility issues

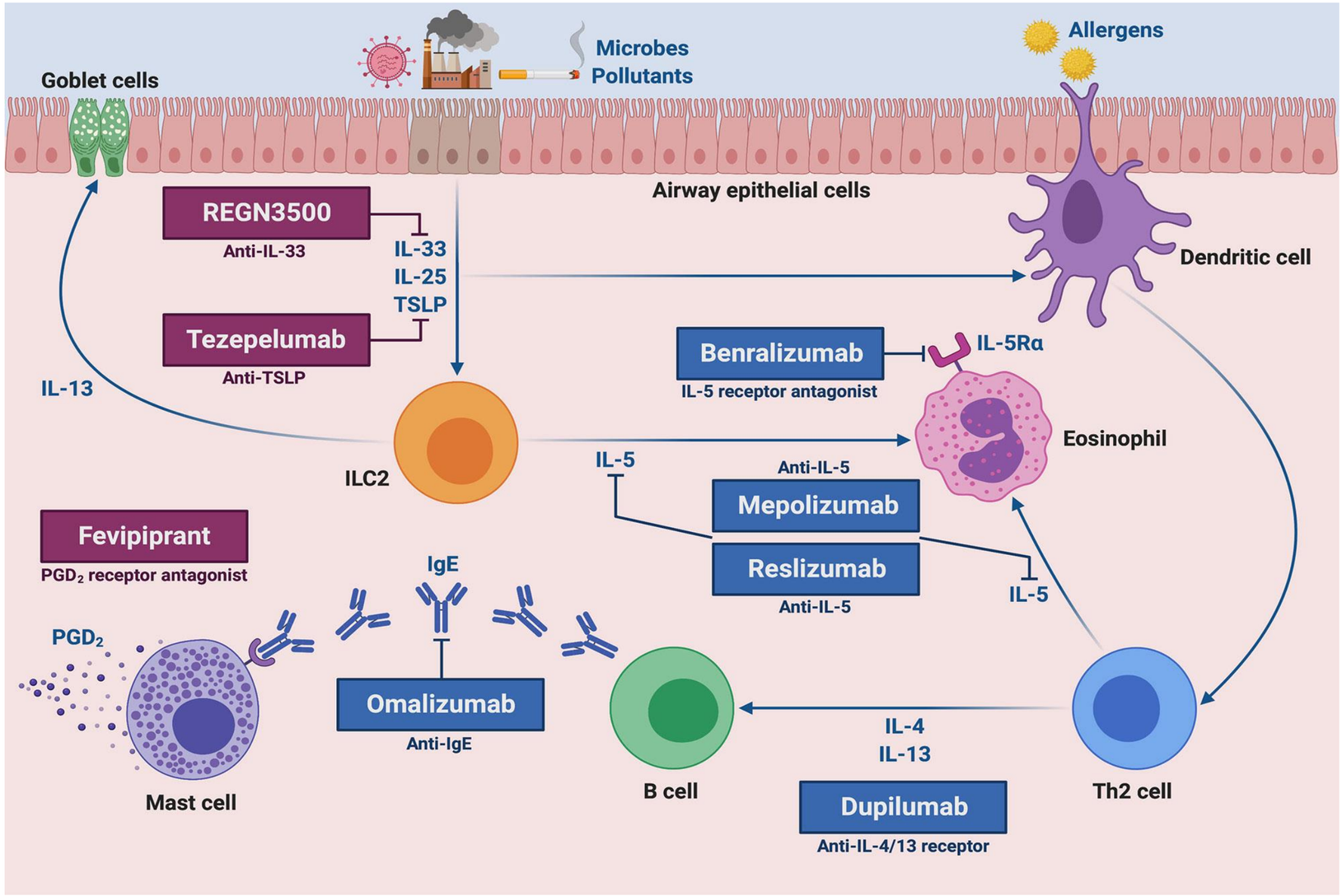
Review of Literature

Study Title	Authors	Key Findings	Epidemiology & Demographics	Gaps & Unmet Needs
• Asthma Management Strategies	Williams et al. (2017)	Strategies for effective management, importance of early intervention	High prevalence in children, disparities in treatment access	Need for early intervention, disparities in access to care
• Pediatric Asthma Management	Martinez et al. (2011)	Challenges and strategies in managing pediatric asthma	High prevalence among children, impact on quality of life	Pediatric-specific treatment needs, long-term safety of therapies
• Advances in Asthma Treatment	Nguyen et al. (2021)	Recent advances in treatment options, impact of new drug approvals	Varied response among different demographics, personalized treatment approaches	Need for more personalized treatments, addressing treatment-resistant asthma

Results & Discussions

Mechanism Of Action

- Anti-IgE antibody
- Interleukin-antagonist monoclonal antibody
- Interleukin-5 receptor alpha directed cytoltic monoclonal antibody
- Interleukin-4 receptor alpha antagonist



Approved Drugs

Brand name	Molecule	MoA	Company	Approval	Indication
Tezpire	Tezepelumab	thymic stromal lymphopoietin (TSLP) blocker	Amgen	2021	add-on maintenance treatment of adult and pediatric patients aged 12 years and older with severe asthma
Dupixent	Dupilumab	interleukin-4 receptor alpha antagonist	Regeneron	2017	treatment of adult patients with moderate-to-severe atopic dermatitis, inadequately controlled with topical prescription therapies or when those therapies are not advisable
Fasenra	Benralizumab	interleukin-5 receptor alpha-directed cytolytic monoclonal antibody (IgG1, kappa)	Astra Zeneca	2017	add-on maintenance treatment of patients with severe asthma aged 12 years and older, and with an eosinophilic phenotype
Cinqair	Reslizumab	interleukin-5 antagonist monoclonal antibody (IgG4 kappa)	Teva	2016	add-on maintenance treatment of patients with severe asthma aged 18 years and older, and with an eosinophilic phenotype

Approved Drugs

Brand name	Molecule	MoA	Company	Approval	Indication
Nucala	Mepolizumab	interleukin-5 antagonist monoclonal antibody (IgG1 kappa)	GlaxoSmithKline	2015	add-on maintenance treatment of patients with severe asthma aged 12 years and older, and with an eosinophilic phenotype
Accolate	Zafirlukast	leukotriene receptor antagonist	Astrozeneca	2015	prophylaxis and chronic treatment of asthma in adults and children 5 years of age and older.
Xolair	Omalizumab	anti-IgE antibody	Genentech	2003	Moderate to severe persistent asthma in adults and pediatric patients 6 years of age and older with symptoms that are inadequately controlled with inhaled corticosteroids
Singulair	Montelukast sodium	leukotriene receptor antagonist	Merck & Co.	1998	Prophylaxis and chronic treatment of asthma in patients 12 months of age and older
Zyflo	Reslizumab	leukotriene receptor antagonist	Abbott Labs	1996	prophylaxis and chronic treatment of asthma in adults and children 12 years of age and older.

Market Analysis

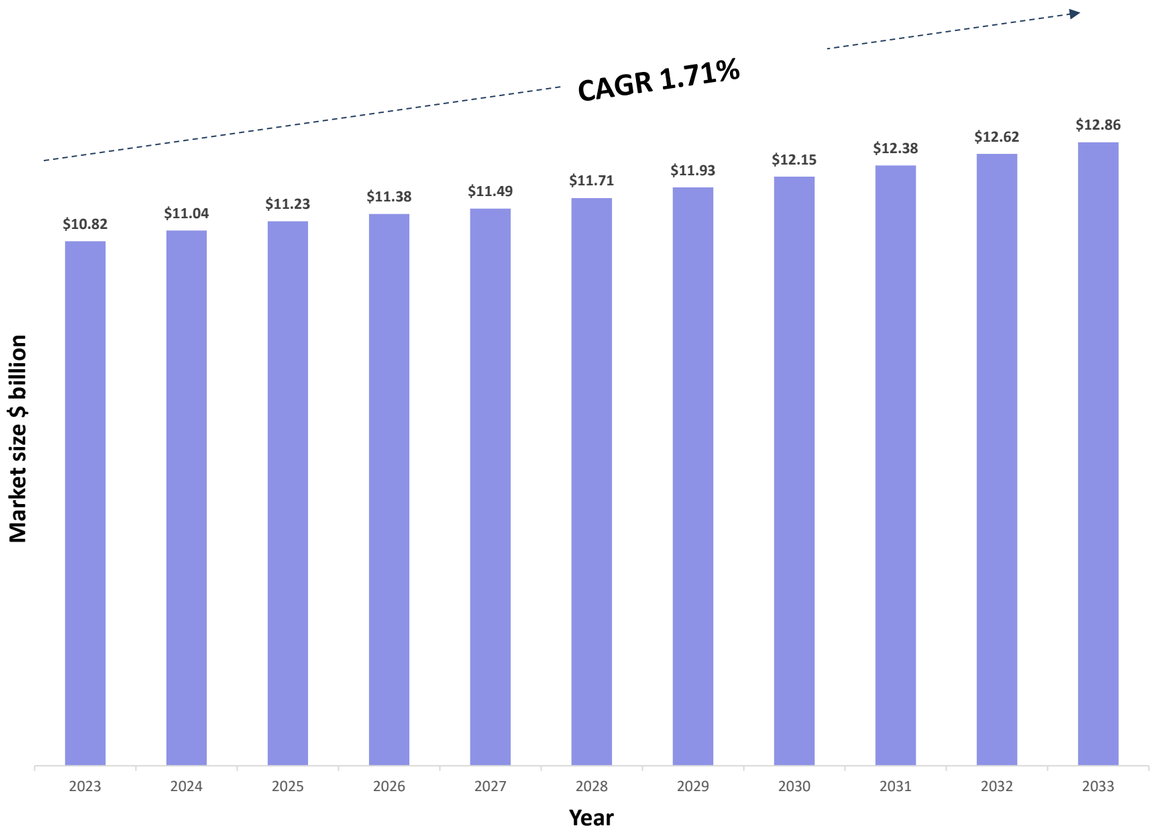


Figure U.S. Asthma Treatment Market Size 2023-2033

- The global market for asthma treatments was valued at USD 27.51 billion in 2023 and is expected to grow at a compound annual growth rate (CAGR) of 2.42% from 2024 to 2033, which may be reaching around USD 35.06 billion.

- In 2023, the market size for asthma treatments in the United States was estimated at USD 10.82 billion, with a projected increase to approximately USD 12.86 billion by 2033, reflecting a compound annual growth rate (CAGR) of 1.71% from 2024 to 2033

Key Market Drivers

- **Increasing Prevalence of Chronic Respiratory Diseases: .** According to AAFP, Over 27 million people in USA have asthma, increasing prevalence of asthma patients will be a driving factor for the therapeutics market
- **Increase in air pollution**: Wheezing, reduced lung function and asthma attacks can all be triggered by exposure to external pollutants. Asthmatics can be more vulnerable when they inhale minute particles as well as noxious gases irritate their lungs thereby making the disease worse
- **Impact of air pollution on DNA associated asthma**: The relationship between air pollution and asthma is clarified by a recent study funded by the Environmental Protection Agency (EPA) and research points to air pollution-suppressing genes that govern the immune system's capacity to discriminate between an allergen and a potentially dangerous foreign substance such as a virus or bacteria.
- **Launch of Novel Asthma Treatments:** Ongoing research and development in the realm of asthma treatment has resulted in the introduction of novel medications like Tezspire, which has obtained FDA approval for managing severe asthma
- **Childhood asthma is associated with exposure to coarse particulate matter**:. In a nationwide sample of American children, children exposed to outdoor coarse particulate matter (PM 10-2.5), PM10 examples: dust, pollen, mold, PM2.5 examples: combustion particles, compounds, metals, smoke, and soot, emissions, were more likely to develop asthma and require emergency room or hospital treatment for asthma

Steps for Pipeline Analysis

Go to site Clinicaltrials.gov

Select Asthma as disease/condition

Apply filters

Recruitment: Select all except suspended, terminated and withdrawn

Funder type:Select industry

Study type,Location: Select Interventional,USA

Download CSV/Excel format

Pipeline Analysis

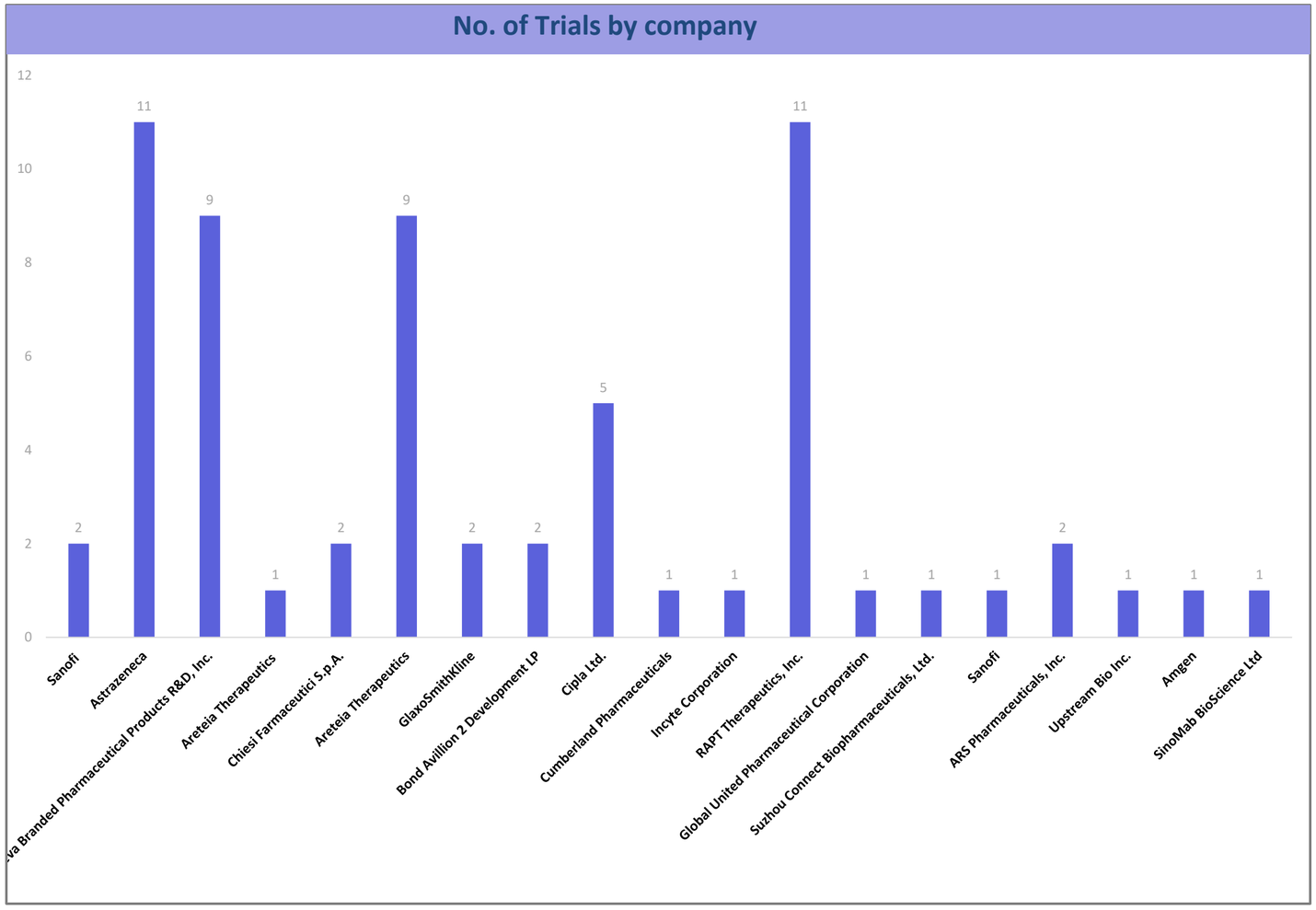
Showcasing the future outcomes

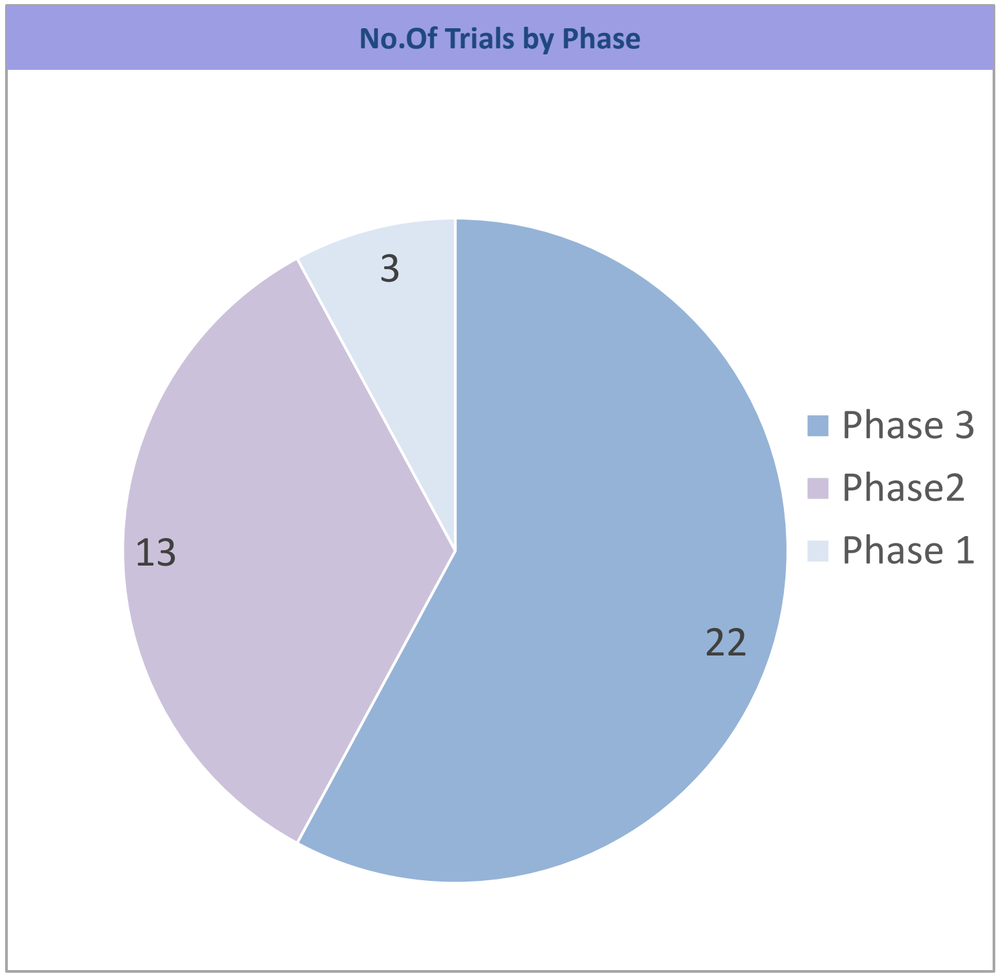
Phase I	Phase II	Phase III
Depemokimab-NCT05602025	Povorcitinib- NCT05851443	Dupilumab -NCT03560466
SM17-NCT05332834	Atuliflapon-NCT05251259	Dexpramipexole Dihydrochloride NCT05748600
CHF5993,CHF5259,Moxifloxacin - NCT05830071	AZD4604-NCT06020014	Tezepelumab-NCT05398263
	Amlitelimab- NCT05421598	DRUG: TEV-56248|DRUG: Albuterol sulfate-NCT06052267
	Rocatinlimab-NCT06376045	Depemokimab,Mepolizumab,Benralizumab NCT04718389
	Lunsekimig-NCT06102005	Depemokimab-NCT04719832
		Tezepelumab NCT06023589

Mechanism of Action

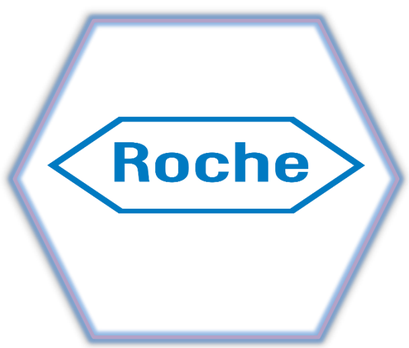
- Interleukin 4 antagonist
- Beta 2 adrenergic receptor
- Thymic stromal lymphopoietin
- OX40 ligand inhibitors
- Interleukin 17 antagonist
- Dopamine receptor agonists
- Janikase 1 inhibitor
- 5-lipoxygenase activating protein inhibitors

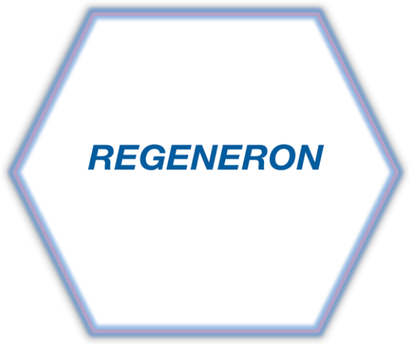
Pipeline Analysis

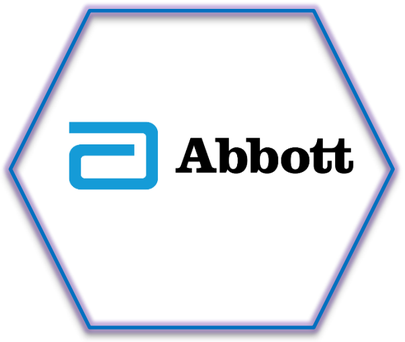




Key market Players







Unmet Needs

Misdiagnosis
Diagnosis of asthma Is complicated s it may mimic other respiratory conditions

Poor adherence
Due to forgetfulness, complex treatment regimens, cost concerns, and perceived medication stigma, contributing to non-compliance

Ineffective inhaler technique
Improper respirator and mechanical alignment,. Incorrect use reduces drug inhalation into the lungs

Lack of therapy for severe asthma
Biologic therapies approved for severe asthma, while the pipeline of new therapies is promising, there are vast needs among

Comorbidites
GERD,chronic sinusitis,rhinitis. Requires multidisciplinary care coordination

Conclusion

Persistent Public Health Challenge:Asthma remains a significant public health challenge in the US despite effective medications

Importance of Comprehensive Management Strategies:Personalized action plans, regular reviews, and patient education are crucial for improving asthma outcomes

Role of Biologics in Severe Asthma:
•Biologics targeting type 2 inflammatory pathways are essential for severe asthma patients.
•They offer effective alternatives for those who do not respond adequately to conventional treatments

Future Research Directions: Ongoing research into new molecular targets is vital to advance asthma treatment.This research holds the potential to develop novel medications for difficult-to-control asthma cases. For Eg Tezpire

Addressing Complex Challenges:
•Tackling issues like severe asthma, misdiagnosis, and comorbidities requires comprehensive approaches.
•Research-driven solutions can enhance diagnostic precision, improve inhaler technique, and manage comorbid conditions effectively
Looking Forward:
•Continued advancements in asthma treatment are expected to lead to more options and better outcomes.
•By translating research into clinical practice, we can improve asthma care and reduce its overall burden.

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Thank You